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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,300	01/08/2001	Michael Becker	3535.010	7235

7590 12/18/2003

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EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 12/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,300

Applicant(s)

BECKER ET AL.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-24 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 and 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 14-17 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on August 22, 2003 has been entered. Claims 1-5, 7, 8, 13-17, and 21-24 have been amended. Claims 8-13 and 17-20 are withdrawn from consideration.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 7, 15-17, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kummermehr (English translation to WO 95/13252) in view of Seitz (U.K. Patent No. 2,032,845).

Kummermehr discloses a mineral wool product coated with a foamed siliceous material containing one organic plastic (page 1). Kummermehr does not disclose a fiber mat layer between the mineral wool and the coating. Seitz discloses two layers of mineral wool, such as rock wool and glass wool, used for insulation (Abstract). Seitz teaches the addition of a glass wool layer makes insulating material with a higher rigidity and lower density (page 1, lines 58-61) and also provides improved sound absorption (page 1, lines 73-78). It would have been obvious to one having ordinary skill in the art

to include another layer of mineral wool, such as glass wool, in the mineral wool product of Kummermehr in order to increase rigidity and sound insulating properties, as taught by Seitz. With regard to claim 2, Kummermehr discloses the claimed ranges for the material in the coating (page 9), with the exception of aluminum hydroxide, which in the examples, is disclosed as being present in as much as 13% by weight (page 11). However, Kummermehr discloses that aluminum hydroxide is a flame protection agent (page 11). Kummermehr also discloses that flame protection agents can be added as needed (page 6). Adding a smaller amount of aluminum hydroxide to derive decreased fire protection would be obvious optimization of a result effective variable for the product's intended use. It would have been obvious to one having ordinary skill in the art to only add 1-5% aluminum hydroxide to the coating, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. With regard to claim 3, Seitz add a glass wool mat to a different mineral wool (Abstract). With regard to claim 7, neither Kummermehr nor Seitz disclose basis weights for the fibrous mats. However, insulation mats of glass wool typically fall within Applicant's claimed range of 20 to 150 grams per square meter. If not already inherent, it would have been obvious to one having ordinary skill in the art to use a fibrous mat with a weight between 20 and 150 grams per square meter in order to have a material with sufficient insulation properties for the desired use, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). With regard to

claims 16 and 17, similar reasoning applies to the more limited weight limitations. With regard to claim 15, there is no disclosure as to the preferred foaming agent used to foam the coating. It would have been obvious to one having ordinary skill in the art to use expanded graphite or pentaerythritol as the foaming agent in the silica resin, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. With regard to claim 21, insulation is commonly used as ceiling panels, and Kummermehr uses the product in roofs and buildings (page 1). With regard to claim 22, Kummermehr discloses the foamed coating is applied by bursting foam bubbles through drying (pages 4-5). With regard to claim 23, Kummermehr discloses the coating applied in a quantity of 100 grams per square meter (claim 8). With regard to claim 24, Kummermehr do not disclose the foam weight per liter. Given that the foam is made of similar materials with similar amounts in Kummermehr as the present claims, the value of foam weight per liter would likely be equivalent to the material of Kummermehr as well. If not, it would have been obvious to a person having ordinary skill in the art to use a weight per liter of 100 g/l to 400 g/l for the foam in order to obtain the desired density for insulation purposes, since it has been held that discovering the optimum amount of a result effective variable involves only routine skill in the art.

4. Claims 4, 5, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kummermehr in view of Seitz as set forth above and further in view of Berbeco (U.S. Patent No. 4,301,040).

Kummermehr and Seitz do not teach adding electrically conductive or magnetically active material to the coating. Berbeco discloses resinous foam layers can be made anti-static by incorporating graphite fibers (column 3, lines 28-50). It would have been obvious to one having ordinary skill in the art to add graphite fibers to the siliceous resin of Kummermehr in order to provide an acoustic insulation material that is static-resistant.

Response to Arguments

5. Applicant's arguments filed on August 22, 2003 have been fully considered but they are not persuasive.

6. Applicant argues that the Kummermehr reference fails to teach a fiber mat on the side of the mineral wool product. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The rejection is based on the combination of Kummermehr with Seitz.

7. Applicant argues Kummermehr fail to teach a foamed coating based on a siliceous material containing at least one organic plastic coated on the fiber mat. Applicant is incorrect. Kummermehr specifically disclose the coating mass also contains an organic component in the form of a plastic dispersion (page 8, bottom paragraph).

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8. Applicant argues Kummermehr fail to teach an acoustically transparent wool product. In the remarks, Applicant gives the definition for "acoustically transparent" to mean that sound can penetrate through the surface and be absorbed in the substrate (page 15 of remarks). But any fibrous insulation material would meet this limitation. Sound waves pass through the surface of a fibrous insulation and become absorbed in the fibers. Kummermehr teach a product that has an open structure in the surface (page 4, top paragraph) that would allow the passage of sound into the mineral wool where it would be absorbed. Kummermehr need not use the actual words "acoustically transparent" to meet Applicant's limitation.

9. Applicant argues that Seitz fails to teach an acoustically transparent wool product. However, Seitz discloses the material is good for sound insulation (page 1, lines 20-22). Thus, sound would pass through the surface of the fibrous material and be absorbed within, which falls within Applicant's definition of acoustically transparent.

10. Applicant argues that Seitz fails to teach a foamed coating based on a siliceous material and containing at least one organic plastic coating on a fiber mat. . In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Kummermehr reference was used to show the features of the coating, not Seitz.

11. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references deal with coated mineral wool products that are used for insulation. Seitz specifically teach⁴ the advantages to using two layers of mineral wool to provide better rigidity at a lesser density and improved insulation, as set forth above in the rejection.

12. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

13. Applicant argues that the Kummermehr reference includes 41% of aluminum hydroxide, while the present invention includes 1-5% of aluminum hydroxide. However, this weight value is but one example that Kummermehr teach. Kummermehr does not require that amount. Kummermehr teach that flame protection agent can be added as required (page 9). This teaching makes it obvious to a person skilled in the art that any amount needed to obtain the desired amount of flame protection in the end product may

be used. Additionally, in the Kummermehr example that Applicant is citing, the amount of aluminum hydroxide in the coating before drying is only 13% by weight. Applicant's claim 2 also recites that the coating may optionally contain additional flame proofing agent.

14. Applicant argues that it was surprising that the content of organic substances in the coating mass was irrelevant under the aspect of flammability, and consequently no large amount of aluminum hydroxide are required. However, the various ingredients of Applicant's coating solutions all overlap in amount with the coating solution of the Kummermehr reference. Kummermehr teach the amount of aluminum hydroxide can be used in any desired amount. Also, Applicant provides for the addition of additional flame proofing agent in claim 2.

15. Applicant argues the disclosure of the Kummermehr reference differs from the present invention because the reference comprises a plastic dispersion content of a maximum of 10% and the present invention comprises a plastic dispersion of at least 10%. However, an overlap of values makes the claim limitation anticipated by the reference.

16. Applicant argues that the coating mass of the Kummermehr reference is deeply impressed into the mineral wool surface. However, Applicant has no claim limitation dealing with the impression of the coating mass into a mineral wool surface. Applicant describes a heating process where bubbles burst prior to curing in the present invention, but this is also disclosed by Kummermehr (page 5).

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17. Applicant argues that Berbeco is not directed to acoustically transparent products and fails to teach mineral wool body and a glass fiber mat. However, Berbeco was not used in the rejection to show these elements. Berbeco was used to show resinous foam layers could be made anti-static by incorporating graphite fibers.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

JRP
JRP

Elizabeth M. Cole
ELIZABETH M. COLE
PRIMARY EXAMINER